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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/613,419

07/03/2003

Chih-Chun Feng

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LIN & ASSOCIATES INTELLECTUAL PROPERTY

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EXAMINER

WILLIAMS, LAWRENCE B

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/613,419	<b>Applicant(s)</b> FENG ET AL.	
	<b>Examiner</b> Lawrence B. Williams	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-18 is/are allowed.
- 6) ☒ Claim(s) 19-36 is/are rejected.
- 7) ☒ Claim(s) 1, 10, 19 and 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: in reference to Fig. 5, device 300, p. 14, paragraph [0028]. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The abstract of the disclosure is objected to because:
- a.) The examiner suggests either "level of a data modulated signal" or "level of the data modulated signal" in line 8.
  - b.) The examiner suggests either "level of a transmitted signal" or "level of the transmitted signal" in line 9.

Correction is required. See MPEP § 608.01(b).

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3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

4. Claim 1 is objected to because of the following informalities:

a.) Claim 1 recites the limitation "the data" in line 4. There is insufficient antecedent basis for this limitation in the claim. The examiner suggests "for data".

b.) Claim 1 recites the limitation "the PAPR level" in line 12. There is insufficient antecedent basis for this limitation in the claim. The examiner suggests "a PAPR level".

Appropriate correction is required.

5. Claim 10 is objected to because of the following informalities:

a.) Claim 10 recites the limitation "the data" in line 4. There is insufficient antecedent basis for this limitation in the claim. The examiner suggests "for data".

b.) Claim 10 recites the limitation "the PAPR level" in line 16. There is insufficient antecedent basis for this limitation in the claim. The examiner suggests "a PAPR level".

Appropriate correction is required.

6. Claim 19 is objected to because of the following informalities: Claim 19 recites the limitation "the PAPR level" in line 5. There is insufficient antecedent basis for this limitation in the claim. The examiner suggests "a PAPR level".

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Appropriate correction is required.

7. Claim 28 is objected to because of the following informalities: Claim 28 recites the limitation "the PAPR level" in line 5. There is insufficient antecedent basis for this limitation in the claim. The examiner suggests "a PAPR level".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 19-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 19, claim 19 recites the limitation, "a composer for composing said data modulated signal and said side information modulated signal, and generating a transmitted signal" in lines 11-12. Review of the specification does not appear to show explicit statements supporting the claim language as presented. Accordingly, the claim has not been further treated on the merits. Examiner makes note of lines 2-4 of page 10 and lines 11-12 of page 11 of the specifications.

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Regarding claims 20-27, claims 20-27 are rejected based upon their dependency upon rejected claim 19.

Regarding claim 28, claim 28 recites the limitation, “ a composer for composing said data modulated signal and said side information modulated signal, and generating a transmitted signal” in lines 11-12. Review of the specification does not appear to show explicit statements supporting the claim language as presented. Accordingly, the claim has not been further treated on the merits. Examiner makes note of lines 2-4 of page 10 and lines 11-12 of page 11 of the specifications.

Regarding claims 29-36, claims 29-36 are rejected based upon their dependency upon rejected claims 28.

***Allowable Subject Matter***

10. Claims 1-18 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter:

The instant application discloses a method and apparatus for protecting and transmitting the side information related to peak-to-average power ratio reduction in a multicarrier system. A search of prior art records has failed to teach or suggest alone or in combination a method for protecting and transmitting the side information related to peak-to-average power ratio reduction in a multicarrier system, comprising the steps of:

“(a) performing multicarrier modulation for the data to be transmitted and generating a data modulated signal, then executing a procedure related to said PAPR reduction; (b) encoding said side information for generating coded side information; (c) allocating a plurality of sub-

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carriers for transmitting said coded side information; (d) performing multicarrier modulation for said coded side information and generating a side information modulated signal; and (e) attaching said side information modulated signal to said data modulated signal for generating a transmitted signal; wherein said PAPR reduction procedure is based on either a PAPR level of said data modulated signal or that of said transmitted signal” as disclosed in claim 1.

“(a) performing multicarrier modulation for the data to be transmitted and generating a data modulated signal, then executing a procedure related to said PAPR reduction; side information and generating two groups of coded side (b) encoding said information; (c) allocating two groups of a plurality of sub-carriers for transmitting said two groups of coded side information respectively; (d) combining one of said two groups of coded side information with said data modulated signal; (e) modulating the other group of said two groups of coded side information and generating a side information modulated signal; and (f) attaching said side information modulated signal to said data modulated signal for generating a transmitted signal; wherein said PAPR reduction procedure is based on either a PAPR level of said data modulated signal or that of said transmitted signal” as disclosed in claim 10.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a.) Chen et al. discloses in US 2005/0018702 A1 PAPR Reduction Method Using Bit Reallocation.

b.) Son discloses in US 2003/0231581 A1 Method And Apparatus For Performing Digital Communications.

c.) Weerackody discloses in US 2002/0150036 A1 Peak-To-Average Power Reduction In An Orthogonal Frequency Division Multiplexing System.

d.) Gatherer et al. discloses in US 2002/0176509 A1 Discrete Multitone Modulation With Reduced Peak-To-Average Ratio Using Unloaded Subchannels.

e.) Jafarkhani et al. discloses in US Patent 6,445,747 B1 Method And Apparatus To Reduce Peak-To-average Power Ratio In Multi-Carrier Modulation.

f.) Tzannes discloses in US Patent 6,961,369 B1 System and Method For Scrambling The Phase Of The Carriers In A Multicarrier Communications System.

g.) Jung et al. discloses in US 2003/01423754 A1 Apparatus And Method For Reducing PAPR In An OFDM Mobile Communication System.

h.) Breling discloses in US Patent 7,126,980 B1 PAR And Out-Of-Band Radiation Reduction In code Multiplex Modulation Systems.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ghayour Mohammad can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams

A handwritten signature in cursive script, appearing to read 'Lawrence B. Williams', with a stylized flourish at the end.

lbw

November 5, 2006